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ABSTRACT

This study, requested by the Community Hospital Education Council, was undertaken to provide guidance in the allocation of state resources in support of internship and residency programs. An attempt is made to establish goals of physician manpower in each of the major specialty groups and to indicate the excess or deficit now extant in Florida. Findings are: (1) 884 more general/family practitioners are needed; (2) 774 more internists are needed; (3) 165 general pediatricians are needed; (4) more psychiatrists, anesthesiologists, plastic surgeons and otorhinolaryngologists are needed; and (5) there is an adequate supply, and in some cases an oversupply, in other specialty areas of medicine. (Author/KE)

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BOR 76-7

STATE UNIVERSITY SYSTEM OF FLORIDA

107 W. Gaines Street, Tallahassee 32304

THIS STUDY

was requested by the COMMUNITY HOSPITAL EDUCATION COUNCIL to provide guidance in the allocation of state resources in support of internship and residency programs. The report was prepared by the staff director.

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(Staff Director)

This public document was produced at a cost of $309 or $0.38 per copy to provide information about Florida's physician manpower needs.

SUMMARY

There are as of early 1976 a total of 14,808 physicians (M.D. and D.O.) practicing in Florida. Numbers by specialty and by location (Health Service Areas) are presented.

An effort has been made to establish goals of physician manpower in each of the major specialty groups, and to indicate the excess or deficit now extant in Florida.

The major findings are:

* We now need 884 more general/family practitioners to meet the goal established.

* We now need 774 more internists to provide primary care.

* We are short 165 general pediatricians.

* We have a somewhat less than optimal number of psychiatrists, anesthesiologists, plastic surgeons and otorhinolaryngologists.

* We are apparently about adequately supplied, or in some cases perhaps over supplied, with the other speciality areas of medicine.

This report does not attempt to deal with the problem of geographic distribution except to present the physician census by HSA districts of the state.

PREFACE

Planning began for this survey more than a year ago. The following assembled as an Ad Hoc committee to update the data on physician distribution in Florida on 15 April 1975:

Robert P. Lawton, Executive Vice President, Rhode Island Health Science Education Council, formerly with Florida RMP and author of a similar study in early 1973.

Charles E. Barner, Jr., Bureau Chief, Records Administration, Department of Professional and Occupational Regulation.

Charles Beck, Administrative Assistant, Bureau of Records Administration, Department of Professional and Occupational Regulation.

Gary Cooper, Research Economist, Department of Administration.

Philip H. Gilbert, Florida Medical Association.

Eugene Nixon, Florida Medical Association.

Charles Smith, Bureau of Comprehensive Health Planning, Department of Health and Rehabilitative Services.

John Wagner, Division of Planning, Department of Administration.

Kenneth E. Penrod, Staff Director, Community Hospital Education Program.

A second meeting was convened 19 June 1975 with additional participation of:

Marshall Church, Systems Analyst Supervisor, Computer Services, Department of Health and Rehabilitative Services.

John Brandenburgh, Executive Director, Florida Board of Osteopathic Medical Examiners.

George Palmer, Executive Director, Florida Board of Medical Examiners.

Several others, too numerous to mention, have been helpful in assembling and reviewing the data, and making suggestions for its presentation.

K. E. P.

PART I

The determination of the number of physicians providing care in a geographical area too large to rely on personal acquaintance is a difficult task.

Florida has begun a program of demographic data storage derived from a questionnaire accompanying the license renewal for all physicians. When this program is completed, and reliable data are available on all physicians holding a current license to practice in Florida, a major step will have been taken toward easy retrieval of a good (but not perfect) indication of the effective physician manpower in the state.

For the present study the data now available in the computer file of the Department of Professional and Occupational Regulation (DPOR) provided the basic source. Unfortunately, an unknown number of active physicians have not yet submitted personal data, and there are many retired, inactive, or "in other than patient care" physicians who continue to maintain a current license. So, while there were 12,972 M.D.'s and 792 D.O.'s licensed to practice and giving Florida addresses as of 25 February 1976, it cannot be presumed that all are in active patient care. Using a variety of data sources, principally state and county medical society records, those known to be retired, or inactive, were eliminated. No record was kept of this number.

At the same time total membership in the Florida Medical Association was 10,342 and in the Florida Osteopathic Medical Association, 650. Likewise most, but by no means all, active physicians belong to their respective county medical societies.

Florida has a number of military base hospitals with physician staffs who provide a significant amount of care to the indigenous population, in uniform and dependents. Some of these, we found, hold the Florida license, but these represent a small minority of the total and care has been taken not to count twice. With the aid of personnel at the several institutions a reasonably accurate census of these physicians has been obtained.

A similar situation exists with regard to the five veterans administration hospitals in the state. The state hospitals and universities' health services all have medical staffs providing much care to citizens who are counted in the population of the area, but only a portion of these appear on the licensed physician list.

A further complication was faced when the effort was made to separate physicians according to specialty. For the licensure data file each physician is requested to list his primary, secondary and (if appropriate) tertiary specialty, choosing among the 69 specialty groups proposed in the American Medical Association list. The choice is made "according to the number of hours per week usually spent in each." These classifications are not always consistent with the records of the state and local medical societies to which he or she belongs nor with records of the respective specialty societies. Likewise, since not all physicians returned that form, or filled it out completely, other sources had to be consulted to assign a primary specialty in some cases, and in a remaining few it became impossible to label the type of practice.

It is clear that to make a reasonable approximation of a physician census by specialty a considerable amount of cross referencing of a variety of sources of data is necessary. There is no mechanized way to do this.

The author is most appreciative of the help obtained from many sources, especially representatives of the local medical societies as well as the state associations, staff of DPOR, military and veterans administration personnel and a host of others. The data presented herein represent a best effort attempt that is believed to be reasonably accurate but complete accuracy has never been claimed!

Although DPOR licensure data are available by county, the mailing address on file for each physician is not specific as to practice or home address. In a number of areas of the state where a large metropolitan district may lie near the county border, this can cause a considerable distortion to county data. In addition, in some instances the value of such data by county can be questioned since patients are generally oblivious to county lines.

Hence, the decision was made that the most appropriate way to present meaningful data was by the Health Service Areas which have now been officially designated under the National Health Planning and Resources Development Act of 1974 (PL93-641). Since in each of these areas it is planned to have a local health planning function, with a professional staff, they will likely be in a position to carry these data further, defining within their area smaller physician service areas or patient flows, and hence better define physician manpower adequacy and shortcoming.

Each Health Service Area (HSA) was assigned an "official" population when it was designated. The figures used in this report are, however, updated to the latest estimates available and are taken from the Governor's Budget Request for 1976-77. The source is the Division of Population Studies, Bureau of Economic and Business Research, College of Business Administration, University of Florida. The county population estimates for 1 July 1975 and 1 July 1976 were averaged to represent those of 1 January 1976.

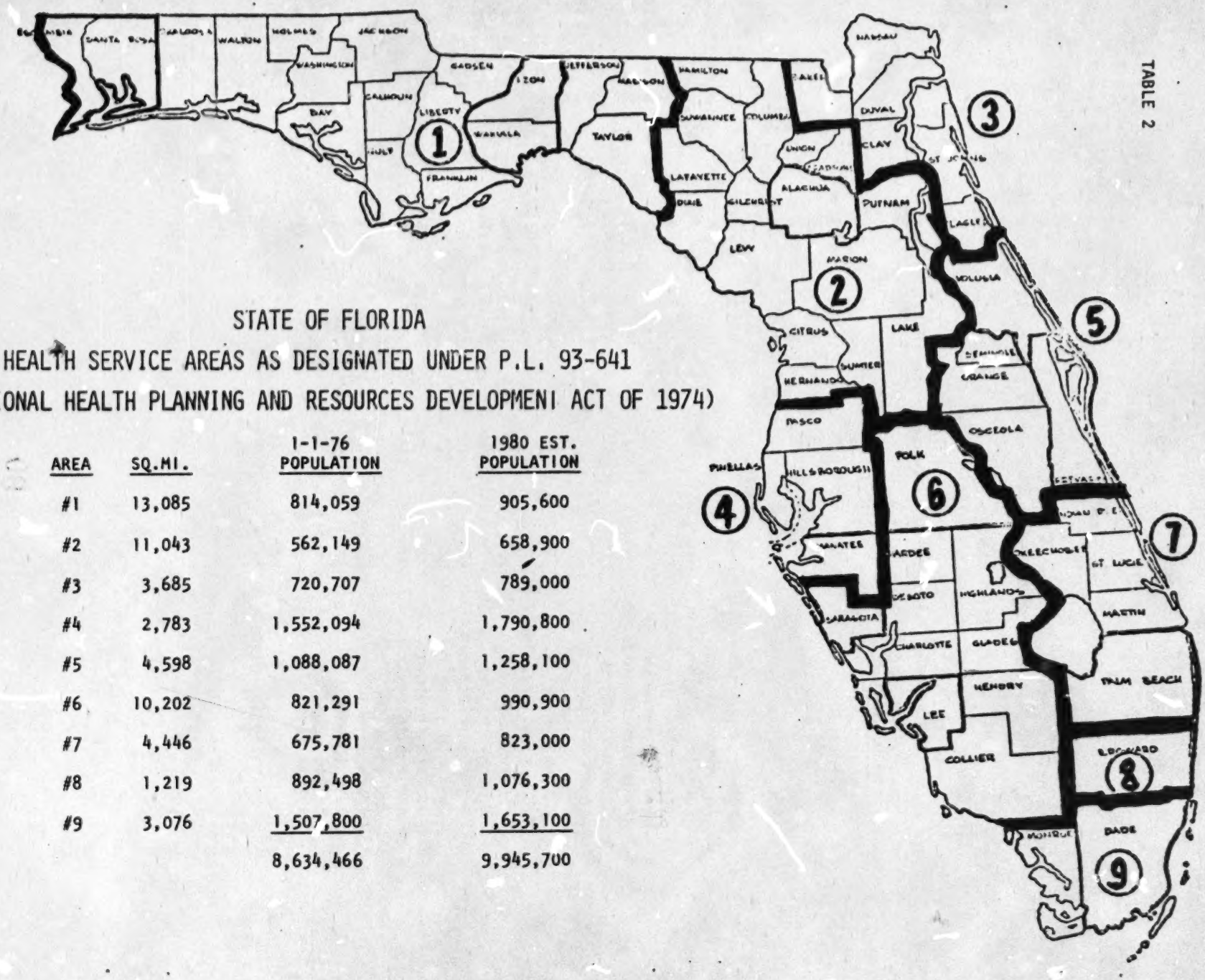
TABLE 1

PHYSICIANS (MD & DO) IN FLORIDA BY SPECIALTY

SPRING 1976

	Practice	Medical Faculty	Interns/ Residents	Federal	State
Primary Care					
GP/FP/EM	2741	22	182	167	43
IM	1522	99	405	75	14
PD	589	58	156	32	23
OBG	751	31	115	29	8
Allergy	56	2	1	2	2
Cardiovascular	273	16	14	3	-
Pediatric Cardiology	11	10	1	-	-
Dermatology	196	13	19	8	-
Gastroenterology	76	10	8	1	-
Pulmonary Diseases	51	6	10	3	-
General Surgery	905	35	197	40	6
NeuroSurgery	100	9	12	2	-
Plastic Surgery	117	2	17	-	-
ColonRectal Surgery	47	-	-	-	-
Thoracic & Vascular Surgery	158	7	8	4	-
Urology	330	7	29	14	-
Orthopedic Surgery	484	15	67	26	-
Ophthalmology	446	30	67	13	-
Otorhinolaryngology	233	6	15	16	-
Anesthesiology	485	39	81	13	-
Neurology	123	20	26	5	-
Psychiatry	585	56	93	47	77
Pathology	382	24	70	23	1
Public Health	-	-	-	-	93
Radiology	605	32	73	41	-
Other Specialities	152	4	-	28	7
Unclassified	191	4	-	67	33
Total Physicians	11,609	567	1666	659	307

TABLE 2



STATE OF FLORIDA

HEALTH SERVICE AREAS AS DESIGNATED UNDER P.L. 93-641

(NATIONAL HEALTH PLANNING AND RESOURCES DEVELOPMENT ACT OF 1974)

AREA	SQ.MI.	1-1-76 POPULATION	1980 EST. POPULATION
#1	13,085	814,059	905,600
#2	11,043	562,149	658,900
#3	3,685	720,707	789,000
#4	2,783	1,552,094	1,790,800
#5	4,598	1,088,087	1,258,100
#6	10,202	821,291	990,900
#7	4,446	675,781	823,000
#8	1,219	892,498	1,076,300
#9	3,076	1,507,800	1,653,100
		8,634,466	9,945,700

SPECIALTY ABBREVIATIONS

GP	GENERAL PRACTICE
FP	FAMILY PRACTICE
EM	EMERGENCY MEDICINE
A	ALLERGY
CD	CARDIOVASCULAR DISEASES
D	DERMATOLOGY
GE	GASTROENTEROLOGY
IM	INTERNAL MEDICINE
PD	PEDIATRICS
PDC	PEDIATRIC CARDIOLOGY
PUD	PULMONARY DISEASES
GS	GENERAL SURGERY
NS	NEUROLOGICAL SURGERY
OBG	OBSTETRICS AND GYNECOLOGY
OPH	OPHTHALMOLOGY
ORS	ORTHOPEDIC SURGERY
OTO	OTORHINOLARYNGOLOGY
PS	PLASTIC SURGERY
CRS	COLON AND RECTAL SURGERY
TS	THORACIC SURGERY
U	UROLOGY
AM	AEROSPACE MEDICINE
AN	ANESTHESIOLOGY
N	NEUROLOGY
OM	OCCUPATIONAL MEDICINE
P	PSYCHIATRY
PTH	PATHOLOGY
PM	PHYSICAL MEDICINE AND REHABILITATION
GPM	GENERAL PREVENTIVE MEDICINE
PH	PUBLIC HEALTH
R	RADIOLOGY

TABLE 3

PHYSICIANS (MD & DO) IN FLORIDA BY HEALTH SERVICE AREAS

SPRING 1976

HSA #	PRACTICE	MEDICAL FACULTY	INTERNS/ RESIDENTS	FEDERAL	STATE	TOTAL
1	631	2	50	154	90	936
2	475	196	339	39	13	1062
3	817		176	131	50	1174
4	1746	96	232	197	22	2293
5	1253		88	78	20	1439
6	1043				32	1075
7	903				14	917
8	1453		8		35	1496
9	3288	273	764	60	31	4416
TOTALS	11,609	567	1666	659	307	14 908

TABLE 4

HSA # 1

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	164	1	36	34	13	248
A	7					7
CD	13			1		14
D	14			3		17
GE	6					6
IM	51.5	1	7	17	6	82.5
PD	38		6	12	8	64
PDC	2					2
PUD	1					1
GS	51		3	11	3	68
NS	7					7
OBG	47.5		7	14		68.5
OPH	29			5		34
ORS	25			8		33
OTO	18			3		21
PS	5					5
CRS	1					1
TS	9			1		10
U	16			3		21
AM	5			8		13
AN	17			5		22
N	7			2		9
OM	3					3
P	25			13	19	57
PTH	25			4		29
PM						
CPM	1				2	3
PH					9	9
R	36			7		43
OTHER	1					1
NOT CLASSIFIED	4			3	30	37
TOTAL	631	2	59	154	90	936

TABLE 5

HSA #2

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	153	11	11	5	6	186
A	1	2	1			4
CD	8	6	5			19
D	5	2				7
GE	2	6	6			14
IM	36	20	60	11		127
PD	26	25	35			86
PDC		4	1			5
PUD	1	5	4			10
GS	46	6	53	5		110
NS	3	4	2			9
OBG	36	14	16			66
OPH	18	6	22			46
ORS	14	6	13			33
OTO	8	4				12
PS	3	2	3			8
CRS	1					1
TS	4	4	4	2		14
U	14	3	5	1		23
AM						
AN	17	14	32			63
N	3	6	8			17
OM						
P	26	17	25	6		74
PTH	15	13	11	2		41
PM	2					2
GPM						
PH					6	6
R	25	12	22			65
OTHER						
NOT CLASSIFIED	8	4		1	1	14
TOTAL	475	196	339	39	13	1062

TABLE 6

HSA #3

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	147		18	39	5	209
A	1					1
CD	19			1		20
D	8			3		11
GE	5					5
IM	96		43	16	1	156
PD	57		37	10	1	105
PDC	2					2
PUD	2					2
GS	85		31	7		123
NS	7					7
OBG	72		21	8	1	102
OPH	33		3	3		39
ORS	32		12	8		52
OTO	15			5		20
PS	9		4			13
CRS	3					3
TS	12					12
U	22		3	2		27
AM	5					5
AN	46			3		49
N	11			1		12
OM	3					3
P	38			5	18	61
PTH	29		4	4	1	38
PM					1	1
GPM					1	1
PH					21	21
R	47			3		50
OTHER						
NOT CLASSIFIED	11			13		24
TOTAL	817		176	131	50	1174

TABLE 7

HSA #4

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	461	2	26	64	4	557
A	4			2		6
CD	42	2				44
D	26	1		2		29
GE	12	1		1		14
IM	185	24	78	22		309
PD	81	7	15	5	2	110
PDC	1	2				3
PUD	7			2		9
GS	121	11	28	13		173
NS	16			1		17
OBG	108	6	18	4		136
OPH	71	9	7	4		91
ORS	70		5	6		81
OTO	44		6	4		54
PS	13					13
CRS	6					6
TS	30			1		31
U	47		6	6		59
AM	2			4		6
AN	77			5		82
N	16	3		2		21
OM	5					5
P	95	19	20	18	3	155
PTH	72	9	14	9		104
PM	5			7		12
GPM	1			1		2
PH					13	13
R	92		9	12		113
OTHER	10			2		12
NOT CLASSIFIED	26					26
TOTAL	1746	96	232	197	22	2293

TABLE 8

HSA #5

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP: FP/EM	327		35	15	2	379
A	6					6
CD	24					24
D	21					21
GE	1					1
IM	138		10	1	1	150
PD	65		3	1	2	71
PDC	1					1
PUD	2					2
GS	112		10			122
NS	12					12
OBG	98		8		3	109
OPH	45					45
ORS	67		10	2		79
OTO	23			3		26
PS	13		4			17
CRS	4					4
TS	16					16
U	41			1		42
AM	1			2		3
AN	47					47
N	13					13
OM	3					3
P	49			1		50
PTH	41		8			49
PM	2					2
GPM						
PH					12	12
R	67			2		69
OTHER	1					1
NOT CLASSIFIED	13			50		[illegible]
TOTAL	1253		88	78	20	1439

TABLE 9

HSA #6

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	260				2	262
A	6					6
CD	13					13
D	17					17
GE	7					7
IM	136				1	137
PD	58				1	59
PDC						
PUD	4					4
GS	89					89
NS	10					10
OBG	65					65
OPH	47					47
ORSq	40					40
OTO	22					22
PS	8					8
CRS	2					2
TS	16					16
U	37					37
AM						
AN	46					46
N	12					12
OM						
P	39				14	53
PTH	30					30
PM	1					1
GPM						
PH					13	13
R	64					64
OTHER	2					2
NOT CLASSIFIED	12				1	13
TOTAL	1043				32	1075

TABLE 10

HSA #7

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	182				3	185
A	8					8
CD	17					17
D	18					18
	5					5
IM	129				2	131
PD	41					41
PDC						
PUD	6					6
GS	76					76
NS	7					7
OBG	69					69
OPH	43					43
ORS	50					50
OTO	17					17
PS	8					8
CRS	2					2
TS	14					14
U	25					25
AM						
AN	34					34
N	8					8
OM	2					2
P	41					41
PTH	29					29
PM	6				1	7
GPM						
PH	1				8	9
R	45					45
OTHER	2					2
NOT CLASSIFIED	18					18
TOTAL	903				14	917

TABLE 11

HSA #8

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/E[illegible]	329		8		3	340
A	7					7
CD	23					23
D	33					33
GE	11					11
IM	243					243
PD	65				3	68
PDC						
PUD	3					3
GS	94				1	95
NS	14					14
OBG	83				2	85
OPH	52					52
ORS	64					64
OTO	37					37
PS	16					16
CRS	7					7
TS	17					17
U	45					45
AM	1					1
AN	66					66
N	20					20
OM	2					2
P	51				23	74
PTH	43					43
PM	4					4
GPM	3					3
PH					2	2
R	82					82
OTHER	4					4
NOT CLASSIFIED	34				1	35
TOTAL	1453		8		35	1496

TABLE 12

HSA #9

Specialty	Practice	Medical Faculty	Interns/ Residents	Federal	State	Total
GP/FP/EM	718	8	48	10	5	789
A	16				2	18
CD	114	8	9	1		132
D	54	10	19			83
GE	27	3	2			32
IM	508	54	207	8	3	780
PD	158	26	60	4	6	254
PDC	5	4				9
PUD	25	1	6	1		33
GS	231	18	72	4	2	327
NS	24	5	10	1		40
OBG	173	11	45	3	2	234
OPH	108	15	35	1		159
ORS	122	9	27	2		160
OTO	50	2	9	1		62
PS	42		6			48
CRS	21					21
TS	40	3	4			47
U	81	4	15	1		101
AM	6				1	7
AN	135	25	49			209
N	34	11	18			63
OM	6					6
P	220	20	48	5		293
PTH	98	12	33	4		147
PM	20			3		23
GPM	6	1			1	8
PH					9	9
R	149	20	42	11		222
OTHER	32	3				35
NOT CLASSIFIED	65					65
TOTAL	3288	273	764	60	31	4416

TABLE 13

COMPARISON OF PHYSICIAN MANPOWER
AMONG HSA's. (#/100,000 Population)

HSA	PRACTICE	MED. FAC. I&R	ALL PHYSICIANS
1	77.5	7.5	115.0
2	84.5	95.2	189.0
3	113.4	24.4	163.0
4	112.5	21.2	147.7
5	115.2	8.1	132.3
6	127.0	--	131.0
7	133.6	--	135.7
8	162.8	0.9	167.6
9	218.1	68.8	292.9
Statewide	134.4	25.9	171.5

PART II

At some point the number of people served by a physician practicing a given specialty comes into appropriate balance. The limits of the range of this proportion are availability within a short time period from the public's point of view and a reasonable workload from the physician's point of view.

Economists describe physician availability in (at least) three terms: money cost, travel cost and waiting time cost. These are likely to be interrelated, but in the end will determine the size of a population group necessary to support a medical practitioner of a given specialty.

Physicians, in addition to their need for a minimum number of patients to maintain the sharpness of their skills, have both a large overhead cost of "doing business" and a recognized standard of living. These require a certain level of income, which in turn is number of patients times the charge per visit.

The range between the number of patients per physician needed to provide a satisfactory income to that physician at a price patients are willing to pay and the number of citizens willing to share the same physician is probably not very wide and should be definable.

One hard-to-measure factor in the physician/population ratios is how many of a given population will use that physician's services how many times during the year. There are many factors influencing this variable such as age of the population and even the practice philosophy of the physician himself (frequency of follow-up visits).

The very nature of medical practice obscures quantitative expression of need by specialty. All physicians have a basic training in medical care and a great many, although highly specialized, now provide varying amounts of primary care to a limited number of patients. If primary and continuing care were more readily available from generalists, other specialists would be freed to devote full time to their specialty. The impact of this in the number of physicians needed in some of the specialties might be considered.

In consequence, it may not be possible to predict with much accuracy how many physicians of a given specialty are needed in our society. There are too many variables in the equation. The one unquestioned conclusion is, however, that a great many more primary care physicians are needed almost everywhere.

Nevertheless, all of the above notwithstanding, those responsible for providing physician manpower must have some target figures, however tenuous they may be. It is in this spirit that the remainder of this report is undertaken.

Robert P. Lawton in his excellent monograph "A Report on Physician Distribution in Florida" prepared in 1973 for the Community Hospital Education Council while a member of the staff of the Florida Regional Medical Programs, carefully developed what he termed the Florida Baseline Physician Ratios. Since that time he has tested and continued to refine those ratios both here and elsewhere. Meanwhile several other authors, using somewhat different assumptions and methods, have published similar "optimum ratios" of physicians to population by specialty. (See Table 14)

The figures used herein for comparison with the count in Florida are essentially those developed by Lawton, in a few cases modified slightly in view of evidence produced by others.

They are as follows:

Primary Care*	90/100,000 Population
All Medical Subspecialties	10
Anesthesiology	7
Dermatology	2
General Surgery	12
Neurology	1.5
Neuro-Surgery	1.2
Ophthalmology	5
Otorhinolaryngology	3.5
Orthopedics	5
Pathology	4
Plastic Surgery	2
Psychiatry	10
Radiology	7
Thoracic/CV Surgery	1
Urology	3
TOTAL	164.2

*The specialties generally included under heading of Primary Care are: family practice, general practice, emergency medicine, general internal medicine, general pediatrics, and obstretrics/gynecology.

The most appropriate distribution among the several primary care disciplines is not well agreed upon. The need for pediatricians and for obstetrics/gynecologists is most frequently cited as 10 per 100,000 each. Accepting these figures means the number of general/family practitioners plus internists should be 70 per 100,000 (1:1430). The proportion of each making up the 70 is the source of debate. For the purposes of this report mid-range figures will be assumed, these being:

45 general/family pratitioners/100,000
25 general internists/100,000.

The sum of the physicians needed in each specialty computed above is less than the total number now active in the state according to Table 13 (164.2 v 171.5). It should be noted that several specialties of medicine are not listed in the table above (one notable omission: Public Health). If the need for all specialties and subspecialties of medicine were summed, the total number of physicians needed in Florida would likely be greater than the total now available.

The important point is that these data underscore again that it is not in total numbers that Florida lags, rather in both specialty and geographic maldistribution.

SUMMARY OF EFFORTS TO DETERMINE OPTIMAL PHYSICIAN/POPULATION RATIOS

TABLE 14

	Lawton 1973	Texas Med. Ass'n. 1974	Steinle 1973	Bennett 1973	Rhode Island 1975	Kansas RNP 1974	Med. Econ. 1967
Primary Care	90	79	64.1	67	89.5	90	89.1
FP/GP		(40)	(33.3)				(50)
Int. Med.		(20)	(14.2)				(20)
Gen'l. Peds.	(10)	(10)	(8.3)		(10)	(10)	(10)
OBG	(10)	(9)	(8.3)	(9.5)	(9.5)	(10)	(9.1)
Allergy		4					4
Cardiovascular		1.3					1
Dermatology	2	2		2.5	2	2	2
General Surgery	15	10	12.5	9	15	15	10
Neurological Surg.	1	1.3		1	1.2		1
Ophthalmology	5	5	4	2.5	4.5	5	5
Otolaryngology	3	3	2	3	3.5	3	4
Orthopedics	5	3	4.5	3.5	5	5	3.3
Plastic Surgery		2					2
Thoracic Surgery		1					1
Urology	3	3	4	1.8	3	3	3.3
Anesthesiology		7	3.3	7.3	7		6.7
Neurology	1	1.3		.8	1.5	1	1.3
Psychiatry	10	7	8.3	9.9	12	10	
Pathology		3	3.3	1.3	4		5
Radiology		5	3.3	3.5	7		6.7
Total Physicians	151	138	109.3	113.1	156.4	150	155.4

PART III

How adequate is the physician count shown in Part I to serve Florida's needs? Some attempts to answer this question are undertaken in this section of the report.

Physicians have been divided into five groups--active practice (usually but not exclusively private), medical school faculties, housestaff, federally employed (VA and military) and state employed (health departments, state hospitals, universities, administration).

Who is counted and who is excluded in physician manpower computations involves some arbitrary decisions. Inasmuch as the population figures used represent a count of all people where they are residing at the time of the census, it will include those in the various hospitals and institutions, state and federal, and at the several military bases, including both uniformed personnel and dependents.

Not all physicians are equally productive of patient care. The data available at this time do not break down this variable and only certain broad assumptions may be made. On the whole, it is assumed that with large groups, at least, this variable will tend to average out. Put one assumption made throughout is that medical school faculties and all interns and residents are less available for patient care than is a full time practitioner. Education shares their time with patient care. After consultation with a number of knowledgeable people, a factor of one-half has been generally assigned to these groups.

In the following an attempt has been made to quantitate, within reasonable bounds, the adequacy or inadequacy of the present physician manpower in Florida, by specialty, when compared against norms derived in the previous section. The basis for the figures derived is explained in each case so that the reader may form his own opinion of the validity --or lack of--for each specialty.

Primary Care Physicians

"A primary care physician (or group of physicians) is one who establishes a relationship with an individual or a family for which he provides continuing surveillance of their health care needs, comprehensive care for the acute and chronic disorders which he is qualified to care for, and access to the health care delivery system for those disorders requiring the services of other specialists." (Report of the Coordinating Council on Medical Education, January 1975).

In the previous section of this report the following figures were selected as representative of an optimum, or target, number of

physicians in each of the primary care specialties to serve a given population:

General/Family Practice	45	per 100,000 population
General Internal Medicine	25	" " "
General Pediatrics	10	" " "
Obstetrics/Gynecology	10	" " "
TOTAL	90	" " "

Comparing the count of physicians shown in Part I with the figures above can give a measure of adequacy of the physician manpower as of this time.

A. General/Family Practice, Emergency Medicine

The total number in Florida is:

2741	Active Practice
22	Medical Faculty
182	Interns and Residents
167	Federally Employed
43	State Employed

Assumptions:

1. The medical faculty and intern-resident group should each be counted at 25% of a full time practitioner. All others should count full time in patient care.

$$\frac{22 + 182}{4} = 51$$

Practice	= 2741	
Federal	= 167	
State	= 43	
TOTAL	3002	Full time practice equivalents.

The number needed in Florida to provide 45/100,000 population is 3886 (for a population of 8,634,466).

3886	Target figure
3002	Present number
884	Number of General/Family Practitioners we are now SHORT

B. Internists

Those in practice (Total 1984) divide themselves into 1347 who indicate a majority of time in Internal Medicine and 637 who indicate a majority of time is spent in a subspecialty.

Assumptions:

1. The 1347 spend 75% in primary care, 25% in a subspecialty.
2. The 637 spend 25% in primary care, 75% in a subspecialty.
3. The medical faculty and intern-resident group spend 50% in primary care, 50% in subspecialty care but see only half as many patients as a full time practitioner.
4. The federally employed internists spend 75% in primary care, 25% in subspecialty.
5. The state employed likewise spend 75% in primary care, 25% in subspecialty.

The number of full time equivalent internists in primary care then becomes:

Practice Group	1347 x 75%	=	1010	F.T.E.
	637 x 25%	=	159	
Faculty, I&R Group	571 x 50% x ½	=	143	
Federal Group	82 x 75%	=	61	
State Group	16 x 75%	=	12	
TOTAL			1385	Full time equivalent internists providing Primary Care.

The number needed in Florida to provide 25/100,000 population is 2159.

2159	Target Figure
1385	Present Number
774	Number of Generalist Internists we are now SHORT

C. Pediatrics

The number providing pediatric care in Florida is:

Practice	589
Faculty	58
Interns/Residents	156
Federal	32
State	23

Assumptions:

1. The care provided by the medical faculty and interns/residents is 25% primary, the remainder secondary and tertiary.

2. The federal and state employees practice essentially like a private practice pediatrician and can be counted full time.

Practice	589	
Faculty	54	(214 x 25%)
Federal	32	
State	23	
	698	Full time practice equivalents

The number needed in Florida to provide 10/100,000 population is 863.

863	Target Figure
698	Present Number
165	Number of Generalists Pediatricians we are now SHORT

D. Obstetrics and Gynecology

The total number in Florida is:

Practice	751
Faculty	31
Interns/Residents	115
Federal	29
State	8

Assumptions:

1. Faculty, interns and residents provide care for about half of a private practitioner's load. Hence should count as 0.5 full time equivalent.
2. All others count full time.

$\frac{31 + 115}{2} = 73$

Practice	=	751
Federal	=	29
State	=	8
		861 Full time practice equivalents.

The number needed in Florida to provide 10/100,000 population is 863.

We now appear to be in excellent balance with regard to the number of OBG specialists in Florida.

The interdependency among the several groups comprising the primary care physicians is apparent. For each group we have computed above, in full time practice equivalency units:

GP/FP/EM	3002
General IM	1385
General PD	698
OBG	861
TOTAL	5946

To provide 90 primary care physicians per 100,000 population at this time would require a total of 7771.

7771	No. Primary Care Physicians Needed
5946	No. Primary Care Physicians Now In Florida
1825	

This shortfall, 1825, represents the total number of Primary Care Physicians needed in Florida now. This figure does not, of course, reflect future needs to provide for replacement and for the growth of the state. These subjects will be dealt with in a later report.

Non-Primary Care Physicians

Although it is recognized that nearly all physicians provide some care that can be properly labeled "primary," for the purposes of this report the nationally accepted definitions will be employed.

On page II-2 of this report target, or so-called "optimal" figures were presented for many of the specialties of medicine. Comparisons of these numbers with the number now in practice in Florida is set out below.

A. The Subspecialties of Internal Medicine

Separating the primary care and the referral care of the internists is a very difficult undertaking. In computing a value for the primary care component of their efforts certain assumptions were made on page III-3. Applying these same assumptions in a reciprocal way, the subspecialty effort of this group is computed below:

Practice Group	1347 x 25%	=	337
	637 x 75%	=	478
Faculty, I&R Group	571 x 50% x ½	=	143
Federal Group	82 x 25%	=	21
State Group	16 x 25%	=	4
TOTAL			983 Full time equivalent internists in Subspecialty care.

The number needed in Florida to provide 10 per 100,000 population is 863.

On the basis of the above calculations it would appear that we have an EXCESS of 120 Internists in the sub-specialties.

B. Selected Specialties of Medicine and Surgery.

The following table, 15, shows the apparent excess or deficit in the physician manpower of several specialties. It should be noted from Table 1 that there were a total of 191 physicians in other specialties not listed and 295 physicians whose specialties were not determined.

This report is addressed to statewide totals of physicians (MD and DO) although the basic census data are presented by Health Service Areas in Part I. The problems of geographic distribution, growth and replacement needs, and special concerns such as unusual composition of population groups and for the large tourist demands will be the subject of subsequent reports. Meanwhile the basic data herein may be useful to others in making specialized calculations.

TABLE 15

NON-PRIMARY CARE PHYSICIANS IN FLORIDA.
COMPARISON OF PRESENT NUMBER WITH THEORETICAL REQUIREMENT

SPECIALTY	"OPTIMAL NUMBER" (1) PER 100,000	TOTAL	OBSERVED NUMBER (2)	EXCESS OR (DEFICIT)
Anesthesiology	7	604	558	(46)
Dermatology	2	173	220	47
General Surgery[3]	12	1036	1114	78
Neurology	1.5	130	151	21
Neuro Surgery	1.2	104	112	8
Ophthalmology	5	432	507	75
Otorhinolaryngology	3.5	302	259	(43)
Orthopedic Surgery	5	432	551	119
Pathology	4	345	458	113
Plastic Surgery	2	173	127	(46)
Psychiatry	10	863	784	(79)
Radiology	7	604	698	94
Thoracic/CV Surgery	1	86	169	83
Urology	3	259	362	103

[1] Refer to Part II of this report for development of figures used. Statewide population = 8,634,466.

[2] For this purpose medical faculty and interns/residents are counted as one-half practice. All others considered full time.

[3] Includes all but the surgical specialties listed.